DOCUMENT RESUME

ED 242 617 SO 015 522

AUTHOR Hay, Ellen A.
TITLE The Use of the Forced Compliance Paradigm in Modifying Sex Role Attitudes and Its Relation to Feedback, Sex Role Orientation and Perceptual Differentiation.
PUB DATE Nov 83
NOTE 33p.; Paper presented at the Annual Midyear Conference of the American Educational Research Association Research on Women and Education Special Interest Group (9th, Tempe, AZ, November 3-5, 1983).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Classroom Environment; Educational Research; Females; Higher Education; Males; Perception; *Preservice Teacher Education; *Sex Role; *Sex Stereotypes; Surveys; *Teacher Attitudes
IDENTIFIERS Forced Compliance

ABSTRACT

A study sought to determine whether use of the forced compliance paradigm could be used in teacher education classrooms to influence teachers' tendency to perpetuate sex role stereotypes. Two hundred college students were randomly placed in 1 of 3 experimental groups. All students completed the Attitudes Towards Women Scale as a pretest, posttest, and post-posttest; the Personality Attributes Questionnaire measuring sex role orientations; and the Group Embedded Figures Test, measuring perceptual differentiations. At 1-week intervals, two groups wrote three short essays that espoused non-sexist positions. One group received feedback on their essays. While the three groups were similar in their initial attitudes towards women, their sex role orientations, and their perceptual differentiations, subjects in the two groups which wrote essays reflected a significantly more liberal attitude toward women than subjects who did not write essays. This attitude change was not maintained on the post-posttest. Those who wrote essays but did not receive feedback were significantly more liberal than the control group, an attitude that persisted on the post-posttest. In this study, feedback did not promote attitude change. Counterattitudinal advocacy is one means of reducing sex role stereotypes in the teacher education classroom. Further research should explore the longevity of this attitude change and its relation to feedback and individual differences. (Author/LP)

Ninth Annual Midyear Conference
American Educational Research Association Special Interest Group: Women And Education
Arizona State University, November 3-5, 1983

The use of the forced compliance paradigm in modifying sex role attitudes and its relation to feedback, sex role orientation and perceptual differentiation.

Ellen A. Hay, Ph.D.
Assistant Professor, Department of Speech
University of Dubuque, Dubuque, Iowa 52001

ABSTRACT

Research indicated that teachers continue to perpetuate sex role stereotypes in the classroom. This study explored whether use of the forced compliance paradigm could be used in the teacher education classroom to influence these stereotypes.

Two hundred college subjects were randomly placed in one of three experimental groups. All students completed the Attitudes Toward Women Scale (Spence & Helmreich, 1978) as the pretest, posttest and post posttest. Subjects also completed the Personality Attributes Questionnaire (Spence, Helmreich & Stapp, 1974) to discern sex role orientations and the Group Embedded Figures Test (Oltman, Raskin & Witkin, 1971) to determine perceptual differentiations. All subjects were pretested, posttested two weeks later, and post posttested one month following the posttest. At one week intervals, treatment subjects wrote three short essays that espoused non-sexist positions. One treatment group received feedback on the essays they wrote.

The three groups were similar in their initial attitudes toward women, their sex role orientations, and their perceptual differentiations. When subjects who wrote essays were compared to subjects who did not write essays, they reflected a significantly ($p < .08$) more liberal attitude toward women. This attitude change was not maintained on the post posttest.

Those who wrote essays but did not receive feedback on the essays were significantly more liberal toward women than the control ($p < .04$). The more liberal attitude continued on the post posttest ($p < .10$).

Masculine, feminine, androgynous and undifferentiated sex role orientations and field independence and field dependence perceptual differentiations did not interact significantly with the treatment.

Counterattitudinal advocacy is one means that could be used in the teacher education classroom to reduce sex role stereotypes. Further research should explore the longevity of this attitude change, and its relation to feedback and various individual differences.

INTRODUCTION

In the last decade considerable attention has been given to redefining the roles that men and women assume so that such roles would no longer be limited by traditional stereotypes. Education as a fundamental institution of society reacted to this need to reduce sex role stereotypes. School curriculums were revised so that course offerings were open to all students. Textbooks also began to reflect broader perspectives and more realistic social trends as publishers adopted nonsexist guidelines and standards.

The effect that teachers have in perpetuating sex role stereotypes was also focused upon. A study by Jacko, Karmos and Karmos (1980) noted that:

> The primary responsibility for effecting change in attitudes and behaviors of young people lies with classroom teachers themselves. Until the classroom teachers have developed nonsexist attitudes and awarenesses, chances of creating an atmosphere of equality for both male and female students are limited (p. 43).

Jacko, Karmos and Karmos (1980) surveyed eighty-six teachers in two southern Illinois school districts and found that while these teachers were aware of stereotyping in society, this sensitivity to the problem did not extend into the classroom. The researchers concluded that "awareness alone is not sufficient for change. Genuine changes in attitudes precede substantive changes in teaching behaviors" (p. 48).

Research has shown that these teaching behaviors are affected by student gender. Studies done in the 1960s and 1970s revealed that male and female students were treated differently by teachers. Reviews of this research such as those assembled by Brophy and Good (1974), Cornell University Community Services Department (1977), Barnett and Baruch (1978), Stockard (1980), Bank,

Biddle and Good (1980), and Finn, Reis and Dahlberg (1980) proved that gender influenced the way teachers and students interacted.

Several studies conducted within the last five years illustrated the continued tendency of teachers to stereotype students. Research conducted by Harris (1977) and Bernard (1979) indicated that teachers evaluated male and female students differently. Interaction patterns between students and teachers are also affected by gender according to studies done by Caplan (1977); Wuhl (1977); Leinhardt, Siewald and Engel (1979); Cleveland (1978); and Good, Cooper and Blakely (1980). The perceptions and expectations that teachers have about students are also influenced by gender. This was proved in research done by Bell, Menke and Lamke (1980); Simmons (1980); Benz and others (1980); Schlosser and Algozzine (1980); and Wise (1978).

If progress is to be made toward the goals of reducing sex role stereotypes and increasing options and potential, the attitudes and behaviors of teachers must be modified. In facilitating this modification, the preservice and inservice training of teachers must be considered carefully. Teacher education needs to prepare individuals to work with children in a nonsexist manner. Unfortunately, teacher education has failed to meet this challenge. The Community Service Department of Cornell University (1977) reported that "all too frequently the professional education of teachers has subtly taught them to expect their students to be limited by sex-related characteristics and behaviors. Rather than questioning and challenging traditional ideas, preservice course work, textbooks, curriculum, research and professors have tended to perpetuate and reinforce them" (p. 34). A recent analysis done by Sadker and Sadker (1979) of twenty-four textbooks frequently used in educational foundations, psychology, and content area methods courses revealed that over 95%

of these books devoted less than 10% of their content to a consideration of sexism. The failure of teacher education to respond to the need for reform in this area is summarized by Burdin (1980) when he noted:

> The large scale endeavor that is teacher education pays only minimal attention to sex equity concerns. A 1974 survey of most schools of education (twelve hundred of fourteen hundred) indicated that relatively few institutions were engaged in a comprehensive study of sex bias. Only eighteen percent were giving important attention to sex bias and the issue of sex equity. The majority of institutions indicated that their faculty did not even have the opportunity to study the issues. The lack of sex fair teacher education courses and materials makes it likely that new teachers will enter schools knowing materials and teaching procedures that perpetuate sex inequality in education (p. 20).

The pressure to change these practices, however, is increasing. Recently, revised guidelines of the National Council for the Accreditation of Teacher Education (Note 1) require teacher education institutions to present evidence that they are working to reduce sexism. Several states have also adopted certification requirements that mandate training in sex equity for teachers. Changes such as these in guidelines and requirements make it necessary for teacher educators to begin consideration of means which can be used to change attitudes and behaviors.

Many studies have evaluated intervention strategies that might be employed by teacher educators. These strategies tended to be of four general types. Some researchers developed individualized instructional modules that might be utilized. Other studies have focused upon the use of consciousness raising techniques. Women's studies courses have been tested for their ability to influence stereotypic attitudes. Workshops and training programs have also been a popular means of confronting sexist positions.

Over forty studies were reviewed to ascertain which approach might be successfully implemented in the teacher education classroom. While all four

types of studies reported some success in modifying attitudes, no one approach consistently produced the desired results. Another problem with these studies was that specific practices were not considered. It was difficult to determine what factors were having an impact on sexist attitudes. In some cases, group leaders or instructors might have been influential. In other instances, the activities and interactions of subjects might have been instrumental. On still other occasions, the materials used might have had an impact. A third weakness of previous research in the area of sex role stereotypes was that it did not investigate how individual differences among subjects might have affected attitude change. Most studies did not consider personal attributes that might have a close relationship to modifying sex role stereotypes.

Based upon previous research, it was apparent that the stereotypic attitudes of preservice and inservice teachers needed to be addressed. To date, however, specific practices that might be successfully translated to the teacher educational classroom had not been thoroughly investigated. The purpose of this study was to develop and test one technique for modifying sex role stereotypes and to determine its relationship to several other factors.

The strategy which was designed was based upon cognitive dissonance theory. This theory first postulated by Festinger (1957) suggested that attitudes could be changed if dissonance could be created. One way of creating this dissonance was to advocate a counterattitudinal position. When individuals verbally committed themselves to a certain attitude either orally or in writing, the measurement of that attitude reflected this commitment. If this forced compliance technique could be proved successful, it would be useful in teacher education for three reasons. First, it was a strategy well grounded in research. Second, it was adaptable to the diversity of the teacher education curriculum. Third, it required minimal expertise to implement.

The study sought to test whether the forced compliance paradigm could effectively modify sex role stereotypes. Since the technique was ultimately for use in the teacher education classroom, several other factors were also considered. Feedback similar to that which might be given by a teacher to a student was an added dimension to determine whether evaluative comments had an influence on attitudes. The individual differences of sex role orientation and perceptual differentiation were also included because of their close relationships to gender and sex role attitudes.

Four hypotheses were designed for investigation of the variables in this study. The first hypothesis focused upon whether advocating a nonsexist position would influence stereotypes. The second hypothesis questioned whether feedback on this advocacy would influence attitudes. The third hypothesis studied whether individuals of the different sex role orientations of masculine, feminine, androgynous, and undifferentiated would react differently to treatment. The fourth hypothesis asked whether the perceptual differentiations of field independence and field dependence would react differently.

A set of common definitions was established to provide a framework for the research. Cognitive dissonance theory was defined as an approach to attitude change that states that through the arousal of an aversive motivational state within an individual, attitude modification can occur. One means of creating an aversive motivational state was through the forced compliance paradigm. Also termed counterattitudinal advocacy, this approach creates dissonance through endorsement of a counterattitudinal position.

Definitions were also established for the various individual differences studied in this research. Perceptual differentiation refers to the ability of an individual to perceive forms in relation to their background or

environment. Individuals who are able to separate forms from their background are field independent while those individuals who are not able to easily discern such forms are field dependent. Psychological sex role orientation refers to the personality characteristics that an individual possesses and reflects. It is sometimes termed sex role identity. A masculine orientation reflects characteristics and traits typically associated with males. A feminine orientation refers to a personality that reflects characteristics and traits typically associated with females. An androgynous orientation combines highly masculine and highly feminine traits while an undifferentiated orientation refers to personalities that are not clearly masculine, feminine, or androgynous.

It was assumed that the subjects that participated in this study were from a normal population of college students. Since these subjects were randomly assigned to treatment groups, it was assumed that the error terms was normally and independently distributed.

The design of this study imposed certain limitations. The study did not attempt to investigate whether subjects who reflected more nonsexist attitudes would perform differently in classroom situations. The study did not attempt to explore whether attitude change that occurred as a result of these treatments would be maintained beyond a one month time period. The study did not evaluate or compare the technique used to induce attitude change with other attitude change techniques.

REVIEW OF LITERATURE

In order to provide background for the study, four areas were researched in detail. Studies that focused on the forced compliance paradigm, on the role of feedback in attitude change, on sex role orientation, or on perceptual differentiation were investigated during the review of literature.

Since cognitive dissonance theory was first defined by Festinger (1957), considerable research has sought to establish the parameters of this theory. Much of this research has concentrated upon studying the effectiveness of the forced compliance paradigm. In early investigations such as those done by Janis and King (1954), King and Janis (1956), Stanley and Klausmeier (1957), Culbertson (1957), Harvey and Beverly (1961), and Janis and Mann (1965), it was found that dissonance was created when subjects communicated a counter-attitudinal position. This dissonance then produced attitude change. Other studies during the last two decades further validated this technique for producing attitude change using a diversity of attitudes with a variety of subjects.

Since this particular research focused upon sex role attitudes in an educational setting, attention was given to studies that used the forced compliance paradigm under these conditions. Work done by Chapman (1974), Shaffer (1975), Collins (1975), and Schuh and Young (1978) investigated counterattitudinal advocacy techniques to modify attitudes about women. Varying degrees of success in influencing stereotypes were reported by these studies. Research in educational settings such as that by Al-Talib (1970), Book (1976), Simonson (1977), and Zimmerman (1979), again reported inconsistency in modifying educational attitudes through the use of the forced compliance paradigm.

The review of literature indicated that counterattitudinal advocacy based upon cognitive dissonance theory was a viable means of influencing attitudes. This technique has been proved effective in many situations including those related to sex role attitudes and those related to educational settings. No research was identified that used the forced compliance paradigm to modify sex role stereotypes in preservice or inservice teacher education.

Since this technique was ultimately to be used in the teacher education classroom, feedback similar to that which might be given by an instructor to a student was an added dimension of this study. Previous research had not focused specifically on how a teacher's evaluative comments might influence a student's attitude. Those studies that did concentrate upon the influence that feedback in general might have been upon attitude change did not produce consistent findings. Four studies done within the last decade suggested that positive feedback on a counterattitudinal performance may increase the level of dissonance and thereby produce more attitude change (Gross, Riemer & Collins, 1973; Shirai, 1975; McMillan, 1977a, 1977b; Eisner & Osman, 1978).

Other studies offered rather contradictory conclusions on the role that feedback played on attitude change. Walenick (1974) found that negative feedback from students to student teachers made these prospective teachers more humanistic. Shannon (1976) reported that subjects who experienced the most attitude change were those given feedback that previously delivered speeches were considered sincere but that their audience remained unconvinced. Subjects given negative feedback on a counterattitudinal speech evidenced more attitude change in Mindell's 1978 study. Freeman and Stormes (1977) suggested that individuals are more likely to accept negative feedback from someone of the same gender.

To help explain why some individuals may be influenced by counterattitudinal advocacy while others remain uninfluenced, two individual differences were considered. Perceptual differentiation and psychological sex role orientation were included because of their close associations with gender and attitude change.

The concept of perceptual differentiation was first defined by Asch and Witkin in the late 1940s. Not only do field independent and field dependent individuals reflect differences in how they perceive their external environment, they also reflect personality differences. Research by Laird and Berglass (1975) found that field independent subjects who were unaware of the discrepancy created by counterattitudinal modified their attitudes more than field dependent subjects.

According to work done by Noppe and Gallagher (1977), Wright (1977) and Weissenberg (1978), field independent individuals prefer creative, active problem solving that can be considered important in counterattitudinal advocacy. Studies by Greene (1973, 1977), Renzi (1974) and Bernstein (1976) reported that field dependent individuals tended to be more influenced by feedback than were field independent individuals. The review of literature suggested that while field independent individuals might be influenced by counterattitudinal techniques, the dimension of feedback might produce more attitude change in field dependent individuals.

Psychological sex role orientation refers to whether an individual reflects personality characteristics that would be considered masculine, feminine, androgynous or undifferentiated. Research conducted by Ott (1976), Jones, Cherhovetz and Hansson (1978), and Spence and Helrmreich (1978) proved that sex role orientation could be associated with sex role attitudes. A study conducted by Montgomery and Burgoon (1977) demonstrated a relationship between attitude change and sex role orientation.

Several studies have linked perceptual differentiation and sex role orientation. Investigations by Vaught (1965), Rosenberg (1976) and Hulfish (1977, 1978) purported that a masculine orientation could be associated with

field independence. While several other studies questioned this relationship, it was a factor to be considered when studying the effect of counterattitudinal advocacy on these two individual differences.

METHODOLOGY

Two hundred college students served as subjects in this experiment. These students were enrolled in psychology courses at the time of the experiment, and while not all students were education majors, a 1979 study by Panko indicated that education and noneducation majors held similar attitudes toward women. Subjects were told they were participating in a study about the effects of persuasive writing on attitudes. This deception was corrected at the end of the experimental period.

A pretest-posttest-post posttest control group design was used. This design allowed subjects to be randomly assigned to one of three groups. Seventy-two subjects were in the control group, sixty-six subjects were in the first experimental group and sixty-two subjects were in the second group. Equal numbers of males and females were in each group. The subjects were then administered the pretest Attitudes Toward Women (ATWS) which was interspersed with other statements asking attitudes about various issues to maintain the deception. Subjects who were in one of the two treatment groups wrote their first short essays. The subjects in the two treatment groups returned one week later to write a second short essay. One group received feedback on the previous essay prior to writing this second one. The third week all subjects returned. Treatment subjects first wrote the third short essay with one group again receiving feedback on the previously written essay. Treatment groups then completed the ATWS and the Personality Attributes Questionnaire (PAQ). Control subjects also completed these measures when they reported for

participation. One month later all subjects were again asked to return to complete the ATWS and the Group Embedded Figures Test (GEFT).

The following diagram illustrates this research design:

G_1 R M_1 —— M_1 M_2 —— M_1 M_3

G_2 R M_1 — T_1 — T_2 — T_2 M_1 M_2 —— M_1 M_3

G_3 R M_1 — T_1 — T_1 — T_1 M_1 M_2 —— M_1 M_3

Where R = Random assignment of subjects to groups

M_1 = Attitudes Toward Women Scale (ATWS)

M_2 = Personality Attributes Questionnaire (PAQ)

M_3 = Group Embedded Figures Test (GEFT)

T_1 = Assignment of writing task

T_2 = Feedback on prior writing task followed by assignment of the next writing task

All of the writing instructions and feedback were recorded on tape and printed on handouts. When subjects reported for participation, they were taken to a room where they were instructed to listen to the feedback and writing task instructions, and then to begin writing. This helped insure some measure of uniformity throughout the study.

The three writing tasks asked subjects to react to situations relating to school where an individual had been the victim of sex discrimination. All three writing tasks asked subjects to express positions that were counter to traditional sex role stereotypes. The three writing tasks were school related situations. The first task concerned a female friend who was denied a principalship on the basis of gender. The second was about a junior high school boy who was not allowed to enroll in a home economics class. The third task was centered around a school which was disbanding its girls' athletic program.

To facilitate the feedback process, each essay was read by the researcher and, based upon the persuasive appeal of that essay, assigned to one of three categories. To determine the reliability of the researcher in assigning the essays to a category, two graduate English students were hired to read a portion of the essays and assign them to one of the categories based upon the predetermined criteria. The readers rated sixty essays, twenty on each writing topic. A Cronbach alpha was computed on these ratings and yielded a value of .84. An alpha coefficient of .84 is considered good for this type of evaluation.

The assignment of the first essay to a category determined the feedback that a subject received prior to writing the second essay. The assignment of the second essay to a category determined the feedback given prior to writing the third essay. The characteristics of each category and the resulting feedback for that category were consistent for all subjects.

The three instruments used in this study had high standards of validity and reliability. The dependent variable of attitude change was measured with the Attitudes Toward Women Scale (ATWS) which was developed and validated by Spence and Helmreich (1973). The fifteen item version of this scale that was used in this study (Spence & Helmreich, 1978) has a Cronbach alpha of .89. Four studies of this instrument conducted within the last ten years further substantiated the accuracy of this scale in measuring attitudes toward women.

Sex role orientation were assigned to subjects based on the Personality Attributes Questionnaire which was designed and validated by Spence, Helmreich and Stapp (1974, 1978). The alpha coefficients computed to measure internal consistency were .73 for men and .91 for women. Test-retest reliability was reported as .80 for males and .91 for females. Labels of masculine, feminine,

androgynous, and undifferentiated were assigned to subjects using a median split method.

Perceptual differentiation was measured with the Group Embedded Figures Test that was developed and validated by Oltman, Raskin and Witkin (1971). The test authors reported a reliability estimate of .82. A 1980 study of this test by Carter and Loo computed a Cronbach alpha of .86. Based upon their test scores, subjects were assigned labels of extremely field independent, slightly field independent, slightly field dependent, and extremely field dependent.

ANALYSIS OF HYPOTHESES

In order to analyze the four general hypotheses formulated for testing in this research, specific null hypotheses were developed. These null hypotheses were designed to evaluate changes within each group on each of the ATWS testings and differences between the groups on each of the ATWS testings. An analysis of variance indicated that all three treatment groups initially held similar attitudes toward women.

The first hypothesis stated: Completion of a series of essays that advocate nonsexist positions will liberalize attitudes related to sex role stereotypes when these attitudes are measured immediately after completion of the writing task and one month after completion of the task. Subjects in the two groups which wrote essays were compared to subjects in the control group that did not write essays. In first investigating changes that occurred within each testing group, a series of t-tests compared pretest to posttest, pretest to post posttest and posttest to post posttest scores. The treatment group did show significantly ($p < .08$) more liberal attitudes on the posttest than the pretest, but this liberalization was not evidenced between the pretest and

post posttest or between the posttest and post posttest. t-tests comparing treatment subjects to control subjects found treatment subjects significantly ($p < .09$) more liberal on the posttest. No difference was found between the two groups on the post posttest. To determine if gender influenced changes in attitudes toward women, analysis of variance was used. On both the posttest and post posttest, females were more liberal than males. The analyses of variance also confirmed the significant differences between those subjects who wrote essays and those subjects who did not write essays on the posttest. No interaction effect between gender and group membership could be observed.

This study repeated the findings of numerous other studies noted in the review of literature that utilized the forced compliance paradigm. When attitudes are measured immediately after endorsing a position, the attitude is changed in the direction of the endorsement. In this case, however, the attitude change was not maintained. The permanence of attitude change has not been closely studied. Janis and Mann (1965) found that smokers who role played a cancer patient maintained their attitude change eighteen months after the role playing experience. Simonson (1977), however, reported that attitude change resulting from advocating a favorable position toward a media course was not maintained when tested two months after treatment. A number of reasons may account for this deterioration in attitude change.

First, the attitude change that is produced may not be stabilized. Cook (1977) reported that those who experienced dissonance sought out other experiences to stabilize their newly formed attitudes. Counterattitudinal advocacy may be a good way to arouse the dissonance that is needed to initially modify attitudes, but may need to be followed up with other experiences to stabilize the attitudes so that they persist.

Second, the subjects must assume responsibility for the attitudinal position that is endorsed. When that position is something life threatening like cancer used in the Janis and Mann (1965) study, the acceptance of personal responsibility may be accomplished more easily than was the case in this study. While attitudes toward women were initially modified, subjects may not have felt a need for maintaining their attitudes.

Third, attitudes about men and women are formed at a very early age and are practiced throughout the developing years. It may not be possible to significantly influence these attitudes with a relatively short treatment. Sex role attitudes and behaviors are an integral part of the socialization experience and may not be easily modified.

The second hypothesis focused on the impact that feedback might have on counterattitudinal advocacy. It stated: Feedback on the writing task will liberalize attitudes related to sex role stereotypes when these attitudes are measured immediately after completion of the writing task and one month after completion of the task. A series of t-tests was used to discern change within each of the three groups between testing sessions. The only significant change was in the group that completed the writing task without receiving feedback. Post posttest attitudes were significantly ($p < .03$) less liberal than posttest attitudes. Analyses of variance were employed to test differences between the three groups on the posttest and post posttest. Both tests yielded significant F-values ($p < .04$ for posttest and $p < .10$ for post posttest). A Duncan multiple comparison procedure indicated that on both the posttest and post posttest the group that did not receive feedback was significantly more liberal than the control group. The influence of gender on treatment was investigated using analysis of variance. As was the case with the first hypothesis, significant main effects were apparent, but no interaction between gender and treatment

occurred. To determine the effect of controlling for pretest variance, analysis of covariance was run on the posttest and post posttest. The significant finding of these tests was on the post posttest between males and females in the group that did not receive feedback. The graph of this interaction suggested that females in this group reflected significantly more liberal attitudes than did males.

In this study, feedback did not, for the most part, promote attitude change. Two factors help to explain this lack of attitude modification in subjects who did not receive feedback. First, the introduction of feedback may have allowed subjects to attribute the dissonance that they were experiencing to another source outside themselves. As the studies by Pittman (1975), and Zanna, Higgins and Taves (1976) noted, when subjects were able to attribute dissonance to another source, attitudes were not modified. In this study, subjects may have attributed the dissonance they experienced to the feedback. The information they received about their previously written statements asked them to generate and support a certain position. These arguments were not self-initiated, and therefore, did not create dissonance.

This same effect may also have resulted in a lack of acceptance of responsibility for the arguments that were generated. As Wicklund and Brehm (1976) and Greenwald and Ronis (1978) explained, it is important for subjects to assume responsibility for the arguments that are endorsed. The feedback asked subjects to improve the quality of their persuasive arguments. While this quality did improve, the arguments were generated to fulfill the suggestions made in the feedback, and subjects did not accept responsibility for the arguments. As the study by Shaffer and Tabor (1980) illustrated, the number of

arguments generated in counterattitudinal advocacy is not as important in producing attitude change as is the salience of the arguments.

The only evidence that feedback could be effective in inducing attitude change was noted when post posttest scores were covaried on pretest scores. The interaction of gender and treatment was significant. One month after the completion of the writing task, females who received feedback were significantly more liberal than males who received feedback. In the group that received feedback, females reflected more liberal attitudes on the post posttest than on the pretest. Possibly the effect that Freeman and Stormes (1977) reported was also active in this case. When feedback came from someone of the same gender, it modified attitudes. Another explanation is that the feedback tended to focus attention on the attitudes expressed about women. For females who were already more liberal, this resulted in an increased liberalization of attitudes. For males, this focusing of attention led to a move in a more traditional direction.

In order to determine if psychological sex role orientation was a mediating factor in influencing attitudes about women, the third hypothesis was advanced. It stated: Masculine, feminine, androgynous and undifferentiated subjects will exhibit differences in attitude change or differences in the interaction of feedback and attitude change when attitudes related to sex role stereotypes are measured immediately after completion of the writing task and one month after completion of the task.

The feminine, masculine, androgynous, and undifferentiated subjects in each group were each analyzed separately to determine if any group changed significantly from the pretest to posttest to post posttest. The t-tests of changes in scores suggested that feminine individuals in the group that was given

feedback revealed significant differences in attitudes between the pretest and the posttest ($p < .02$) and between the pretest and the post posttest ($p < .04$). Masculine subjects in the group that was not given feedback evidenced a significant liberalizing effect between the pretest and the posttest ($p < .11$), but showed a significant reduction in attitudes between the posttest and the post posttest ($p < .01$). Androgynous individuals in the control showed a similar move to more traditional attitudes between the pretest and the post posttest ($p < .06$).

When assessing differences between the three treatment groups, sex role orientation and the type of treatment received did not interact in producing attitude change. The only interaction effect that was significant was between gender and sex role orientation on the post posttest ATWS ($p < .09$). A graph of the means of this interaction revealed that feminine males and females were more similar in their attitudes toward women on the post posttest than males and females in the other orientations. Covarying posttest and post posttest scores did not produce significant interactions between treatment, gender and orientation.

This study supported the contention that those individuals who do not have gender-typed orientations will be more liberal in their attitudes toward women. In terms of attitude change, however, this study deviated somewhat from previous research studies. Overall, feminine subjects experienced the most amount of variation from the treatment. Feminine subjects may demonstrate more of a sensitivity to the attitude change process because initially females of this group tend to be more traditional while the males tend to be more liberal. As a result of detailed directions in advancing counterattitudinal arguments, both males and females with a feminine orientation became more

liberal. Without detailed feedback, feminine subjects do not generate the sort of arguments that are suffigient to change attitudes.

Two other significant changes in attitudes were also apparent. Generating counterattitudinal arguments without the influence of feedback created dissonance in masculine subjects but when this counterattitudinal behavior was no longer a persistent influence, masculine subjects returned to their more traditional attitudes. The decline in scores for androgynous subjects in the control group can best be explained by the tendency for high scores to regress toward the mean when some intervention strategy does not work to maintain those attitudes. Other orientations also demonstrated this tendency, but their losses were not significant.

When comparing the three experimental groups on the dimension of sex role orientation, the effects of treatment and orientation do not significantly interact to produce attitude change. This may be because sex role orientation is so closely tied to sex role attitudes. In the Montgomery and Burgoon (1977) experiment, the attitude studied concerned a college enrollment policy which is not associated to sex role orientation. To discover if sex role orientation does indeed have an effect upon the forced compliance paradigm, attitudes not so closely aligned with sex role orientations must be studied.

The final hypothesis focused on the influence that perceptual differentiation might have on the addittude change process. It stated: Field independent and field dependent subjects will exhibit differences in attitude change and differences in the interaction of attitude change and feedback when attitudes are measured immediately after completion of the writing task and one month after completion of the task.

Field independence and field dependence did not appear to have a great influence on the attitude change studied in this experiment. The investigation of change scores through the use of t-tests indicated that those most affected were extremely field independent individuals in the control group. These individuals evidenced significant differences between the pretest and post posttest ($p < .07$), and the posttest and post posttest scores ($p < .10$). This would suggest that slight focusing on sex role attitudes as done by taking the ATWS was a more successful means of influencing attitudes of extremely field independent individuals than was counterattitudinal advocacy. If field independent individuals had the opportunity to consider their attitudes without any outright effort being made to modify these attitudes, they might be more apt to change.

Extremely field independent subjects in the treatment group without feedback demonstrated more liberal attitudes in the posttest than in the pretest ($p < .07$), but these attitudes significantly deteriorated between the posttest and the post posttest ($p < .06$). This was a trend evidenced in the entire group but was particularly pronounced with field independent subjects in this group. It would seem that when field independent individuals are allowed to generate attitudinal arguments without input on how this should be done, they are more likely to modify their attitudes in the direction of the advocacy. This agrees with the findings of Laird and Berglas (1975). This modification of attitudes, however, is not maintained. Once treatment is discontinued, and subjects are given time to adjust their previously held attitudes with their counterattitudinal behavior, the formerly held attitudes again persist. The field independent individual is no longer guided by current behaviors, but instead relies upon previously formulated positions.

When the three experimental groups were compared with each other using analysis of variance, no differences could be found between subjects in the groups who were field independent and field dependent. When perceptual differentiation was considered in relation to gender and to sex role identity in an analysis of variance, the variables did not interact significantly. When posttest ATWS scores and post posttest ATWS scores were covaried on pretest ATWS, the remaining variance could not be attributed to perceptual differentiation.

The reasons that field independence and field dependence are not more significant when comparing the attitudes of the control group with the two treatment groups may be the strong influence of gender on attitudes toward women. In this sample, females consistently espoused more liberal attitudes than males. Since field independence and field dependence are also related to gender, the effect may have been more of an influence than was field independence or field dependence. Possibly if an attitude not so closely related to gender was studied, field independence and field dependence might have a greater impact.

CONCLUSIONS

The forced compliance paradigm offers a definite promise for creating a technique that could be used in education classes to reduce sex role stereotypes in the classroom. The findings in this study confirmed what other research has shown using counterattitudinal advocacy. Expressing a certain position is effective in modifying attitudes in the direction of that position. In teacher education classes, assignments like this might be given as a part of a journal writing exercise or might be expanded into a role play to be presented in class. This study indicated that the effect of this attitude change technique may not be long lasting. Given the importance of attitude stabilization and personal

responsibility in the forced compliance paradigm and the lifelong socialization that creates sex role attitudes, it may have been that subjects in this experiment did not fully assimilate the positions advocated in this series of essays. Modifications for use in the classroom may need to be made to encourage the acceptance of these attitudes. Activities may need to be incorporated throughout the course rather than for just a short interval within a course. An even better alternative might be to include this sort of counterattitudinal advocacy in several courses throughout a one to two year period. This could provide a better sense of ownership for these activities.

When using this technique in class, the effect that feedback on a student's response might have upon a student's attitude should be carefully considered. Other studies on this effect of feedback did not produce consistent outcomes. The findings of this experiment suggested that the presence of feedback did have an impact upon attitude change. Subjects who did not receive feedback evidenced more attitude change than did those who did. Feedback may have allowed subjects to attribute the dissonance they experienced from counterattitudinal advocacy to a source outside themselves. Feedback may also have allowed subjects to escape responsibility for the nonsexist position that was expressed. Subjects who did not receive feedback did not focus upon their attitudes in this manner and would, therefore, be more likely to experience dissonance which they too sought to resolve through attitude change. For the instructor of a teacher education course who is using this technique, the results of this study would support keeping evaluative comments on counterattitudinal advocacy to a minimum.

In terms of the role that individual differences have in mediating attitude change, no definite conclusions could really be drawn from this study. Psychological sex role orientation did not seem to have an important impact upon the

changing of attitudes in this study. The perceptual differentiations of field-independence and field dependence did not intervene to explain the attitude change that did occur. While it is a good idea for teacher educators to keep in mind differences such as sex role orientation and perceptual differentiation and the characteristics associated with these individual differences, they do not appear to play a part in the attitude change technique explored in this study.

If the educational enterprise is to maximize the potential of all students regardless of gender, sexist attitudes held by teachers must be confronted. The technique of counterattitudinal advocacy as suggested by cognitive dissonance theory does present a viable means of influencing sex role stereotypes. Further refinements of this technique are now needed so that it can be fully understood and successfully implemented.

REFERENCES NOTES

1. ACSESULGC Task Force. Modified NCATE standards for extended programs of teacher education. Unpublished proposal, Washington, D.C.: National Council for the Accreditation of Teacher Education, 1981.

REFERENCES

Al-Talib, N. M. Effects of consonant and dissonant role playing with high or low justification on attitude change toward physical education courses. Research Quarterly of the AAHPER, 1970, 41 (4), 467-71.

Bank, B. J., Biddle, B. J. & Good, T. L. Sex roles, classroom instruction and reading achievement. Journal of Educational Psychology, 1980, 72 (2), 119-132.

Barnett, R. & Baruch, G. The Competent Woman: Perspectives on Development. New York: Halsted Press, 1978.

Bell, N. J., Menke, P. & Lamke, L. Teachers' definitions of self-esteem when rating preschool children. Perceptual and Motor Skills, 1980, 51 (1), 292.

Benz, C. & others. Sex Role Expectations of Classroom Teachers. Boston: AERA Annual Meeting, 1980. (ERIC ED 191 908)

Bernard, M. Does sex role behavior influence the way teachers evaluate students? Journal of Educational Psychology, 1979, 71 (4), 553-62.

Bernstein, B. L. Immediate responses to personal confirmation and refutation: psychological differentiation and feedback discrepancy-level effects. (Doctoral dissertation, University of California, Santa Barbara, 1976). Dissertation Abstracts International, 1976, 36/09-A, 5818. (University Microfilms No. 76-6571)

Book, C. L. An investigation of the effects of immunization on student teacher dogmatism and attitudes toward teaching. (Doctoral dissertation, Purdue University, 1976). Dissertation Abstracts International, 1976, 37/03-A, 1496. (University Microfilms No. 76-21,086)

Bropny, J. E. & Good, T. L. Teacher-Student Relationships: Causes and Consequences. New York: Holt, Rinehart and Winston, Inc., 1974.

Burdin, J. Framework for Developing Non-Sexist Teacher Education Materials: A Concept Paper. Washington, D.C.: American University, 1980. (ERIC ED 198 088)

Caplan, P. Sex, age, behavior and school subject as determinants of report of learning problems. Journal of Learning Disabilities, 1977, 10 (5), 314-316.

Carter, H. & Loo, R. Group embedded figures test: psychometric data. Perceptual and Motor Skills, 1980, 50 (1), 32-34.

Chapman, T. Simulation game effects on attitudes regarding racism and sexism. (Doctoral dissertation, University of Maryland, 1974). Dissertation Abstracts International, 1974, 36/01-A, 700. (University Microfilms No. 75-17,882)

Cleveland, E. F. The relationship between feminist beliefs and classroom job assignments in elementary school teachers. (Doctoral dissertation, Case Western Reserve University, 1978). Dissertation Abstracts International, 1978, 39/03-A, 1319. (University Microfilms No. 78-16455)

Collins, E. R. A role playing workshop as a facilitaror of change in attitudes toward women. (Doctoral dissertation, Boston University, 1974). Dissertation Abstracts International, 1975, 36/08-A, 5036. (University Microfilms No. 76-2351)

Community Service Education Department, Cornell University. Expanding Adolescent Role Expectations. Albany, N.Y.: New York State Education Department, 1977.

Constantinople, A. Masculinity-femininity: an exception to a famous dictum. Psychological Bulletin, 1973, 80 (5), 389-407.

Cook, D. A. Attributional instability: the effect of a discrepant or a consonant decision on attitude change and behavior. (Doctoral dissertation, University of Iowa, 1977). Dissertation Abstracts International, 1977, 37/08-B, 4213-14. (University Microfilms No. 77-3723)

Culberston, F. Modification of an emotionally held attitude through role playing. Journal of Abnormal Social Psychology, 1957, 54 (2), 230-33.

Eisner, J. R. & Osman, B. E. Linguistic social influence. European Journal of Social Psychology, 1978, 8 (1), 125-28.

Festinger, L. A Theory of Cognitive Dissonance. Stanford: Stanford University Press, 1957.

Festinger, L. & Carlsmith, J. M. Cognitive consequences of forced compliance. Journal of Abnormal Sooial Psychology, 1959, 58 (2), 203-210.

Finn, J. D., Reis, J. & Dulberg, L. Sex differences in educational attainment: the process. Comparative Education Review, 1980, 24 (2), S33-S52.

Freeman, H. R. & Stormes, N. L. Effects of sex of subjects and sex of interpreter on responses to test feedback. Journal of Counseling Psychology, 1977, 24 (6), 537-39.

Good, T. L., Cooper, H. M. & Blakey, S. L. Classroom interaction as a function of teacher expectations, student sex and time of year. Journal of Educational Psychology, 1980, 72 (3), 378-85.

Greene, L. R. Effects of field independence, physical proximity and evaluative feedback, affective reactions and compliance in a dyadic interaction. (Doctoral dissertation, Yale University, 1973). Dissertation Abstracts International, 1973, 34/05-B, 2284-85. (University Microfilms No. 73-26,285)

Greene, L. R. Effects of verbal evaluation feedback and interpersonal distance on behavioral compliance. Journal of Counseling Psychology, 1977, 24 (1), 10-14.

Greenwald, A. G. & Ronis, D. L. Twenty years of cognitive dissonance: case study of the evolution of a theory. Psychological Review, 1978, 85 (1), 53-57.

Gross, A. E., Riemer, B. S. & Collins, B. E. Audience reaction as a determinant of the speaker's self-persuasion. Journal of Experimental Social Psychology, 1973, 9 (3), 246-56.

Harris, M. B. The effects of gender, masculinity-femininity and trait favorability on evaluations of students. Contemporary Educational Psychology, 1977, 2 (4), 353-63.

Harvey, O. & Beverly, G. Some personality correlates of concept change through role playing. Journal of Abnormal Social Psychology, 1961, 63 (1), 125-130.

Hulfish, S. M. The relationship of role identification and self-esteem to sex differences in the embedded figures test. (Doctoral dissertation, University of Florida, 1977). Dissertation Abstracts International, 1977, 37/10-B, 5355. (University Microfilms No. 77-6876)

Hulfish, S. Relationship of role identification, self-esteem and intelligence to sex differences in field independence. Perceptual and Motor Skills, 1978, 47 (3), 835-42.

Jacko, C. M., Karmos, A. H. & Karmos, J. A. Classroom teachers and sex role stereotyping. Journal of Instructional Psychology, 1980, 7 (2), 43-9.

Janis, I. L. & King, B. T. The influence of role playing on opinion change. Journal of Abnormal and Social Psychology, 1954, 49 (2), 211-18.

Janis, I. L. & Mann, L. Effectiveness of emotional role playing in modifying smoking habits and attitudes. Journal of Experimental Research in Personality, 1965, 1 (2), 84-90.

Jones, W. H., Cherhovetz, M. E. Hansson, R. The enigma of androgyny: differential implications for males and females. Journal of Consulting and Clinical Psychology, 1978, 46 (2), 298-313.

Laird, J. D. & Berglas, S. Individual differences in the effects of engaging in counterattitudinal behavior. Journal of Personality, 1975, 43 (2), 286-304.

Leinhardt, G., Siewald, A. M. & Engel, M. Learning what's taught: sex differences in instruction. Journal of Educational Psychology, 1979, 71 (4), 432-39.

McMillan, J. H. The effect of effort and feedback on the formation of student attitudes. American Educational Research Journal, 1977, 14 (3), 317-30. (a)

McMillan, J. H. A quasiexperimental study of the effect of effort and feedback on the formation of student attitudes. (Doctoral dissertation, Northwestern University, 1977). Dissertation Abstracts International, 1977, 37/07-A, 4239. (University Microfilms No. 77-1307). (b)

Mindell, M. G. Attitude change as a function of knowledge and evaluation in counterattitudinal advocacy. (Doctoral dissertation, Kent State University, 1978). Dissertation Abstracts International, 1978, 38/09-B, 4510. (University Microfilms No. 78-0352)

Montgomery, C. L. & Burgoon, M. An experimental study of the interactive effects of sex and androgyny on attitude change. Communication Monographs, 1977, 44 (2), 130-35.

Noppe, L. D. & Gallagher, J. M. A cognitive style approach to creative thought. Journal of Personality Assessment, 1977, 41 (1), 85-90.

Oltman, P. K., Raskin, E. & Witkin, H. A. Manual for Group Embedded Figures Test. Palo Alto: Consulting Psychologists Press, 1971.

Ott, T. Androgyny, sex role stereotypes, sex role attitudes and self-actualization among college women. (Doctoral dissertation, Notre Dame University, 1976). Dissertation Abstracts International, 1976, 37/06-A, 3527. (University Microfilms No. 76-27,292)

Panko, J. Sexism in Education: A Study of Future Teachers Attitudes Toward Women. Orlando, Fla.: National Meeting of the Association of Teacher Educators, 1979. (ERIC ED 167 513)

Pittman, T. S. Attribution of arousal as a mediator in dissonance reduction. Journal of Experimental Social Psychology, 1975, 11 (1), 53-63.

Renzi, N. B. A study of some effects of field dependence-independence and feedback on performance achievement. (Doctoral dissertation, Hofstra University, 1974). Dissertation Abstracts International, 1974, 35/04-A, 2059. (University Microfilms No. 74-21,861)

Rosenberg, E. S. Some psychological and biological relationships between masculinity and femininity and field dependence and field independence. (Doctoral dissertation, Northwestern University, 1976). Dissertation Abstracts International, 1976, 36/12-B, 6453. (University Microfilms No. 76-13,106)

Sadker, M. P. & Sadker, D. M. Beyond Pictures and Pronouns: Sexism in Teacher Education Textbooks. Newton, Mass.: Education Development Center, 1979.

Schlosser, L. & Algozzine, B. Sex, behavior and teacher expectancies. Journal of Experimental Education, 1980, 48 (3), 231-36.

Schuh, A. J. & Young, Y. Indicators of attitude shift from role playing. Bulletin of the Psychonomic Society, 1978, 11 (5), 283-84.

Shaffer, D. R. Some effects of consonant and dissonant attitudinal advocacy on initial attitude salience and attitude change. Journal of Personality and Social Psychology, 1975, 32 (1), 169-168.

Shaffer, D. R. & Tabor, C. Salience of own and others' attitudes as determinants of self-persuasion. Journal of Social Psychology, 1980, 111 (2), 225-36.

Shannon, W. T. Two types of consequences and their influence on self-attribution of attitudes. (Doctoral dissertation, Louisiana State University, 1976). Dissertation Abstracts International, 1976, 37/06-B, 3158-59. (University Microfilms No. 76-28,828)

Shirai, Y. Attitude change via attitude-discrepant role-playing. Japanese Journal of Experimental Social Psychology, 1975, 15 (2), 108-115.

Simmons, B. Sex role expectations of classroom teachers. Education, 1980, 100, 249-50.

Simonson, M. R. Attitude change and achievement: dissonance theory in education. Journal of Educational Research, 1977, 70 (3), 163-69.

Spence, J. T. & Helmreich, R. The attitudes toward women scale. JSAS Catalog of Selected Documents in Psychology, 1972, 2, 66. (MS. No. 153)

Spence, J. T. & Helmreich, R. Masculinity and Femininity: Their Psychological Dimensions, Correlates and Antecedents. Austin: University of Texas Press, 1978.

Spence, J. T., Helmreich, R. and Stapp, J. The personal attributes questionnaire: a measure of sex-role stereotypes and masculinity-femininity. JSAS Catalog of Selected Documents in Psychology, 1974, 4, 43. (MS. No. 617)

Stanley, J. & Klausmeier, H. Opinion constancy after formal role playing. Journal of Social Psychology, 1957, 46 (1), 11-18.

Vaught, G. M. The relationship of role identity and ego strength to sex differences in the rod and frame test. Journal of Personality, 1965, 33, 271-83.

Walenick, V. J. An experimental study to determine the effectiveness of feedback as a means of changing student teachers' humanistic behaviors. (Doctoral dissertation, Rutgers University, 1974). Dissertation Abstracts International, 1974, 34/10-A, 6508. (University Microfilms No. 74-8879).

Weissenberg, P. Field independence and attitudes toward population control. Perceptual and Motor Skills, 1978, 47 (1), 185-86.

Wicklund, R. A. & Brehm, J. W. Perspectives on Cognitive Dissonance. Hillsdale, N.J.: Laurence Erlbaum, 1976.

Wise, G. W. Relationship of sex role perception and levels of self-actualization in public school teachers. Sex Roles, 1978, 4 (4), 605-617.

Wright, P. J. A study of the differences between written messages encoded by field dependent and independent sources. (Doctoral dissertation, University of Oklahoma, 1977). Dissertation Abstracts International, 1977, 37/08-A, 4709. (University Microfilms No. 77-1863).

Wuhl, G. B. Sex differences in teacher's gender expectations about reading. (Doctoral dissertation, University of Pennsylvania, 1977). Dissertation Abstracts International, 1977, 37/11-A, 7053. (University Microfilms No. 77-10,237)

Zanna, M. P., Higgins, E. T. & Taves, P. A. Is dissonance phenomenologically aversive? Journal of Experimental Social Psychology, 1976, 12 (6), 530-38.

Zimmerman, G. E. The effect of role playing on attitudes toward music. (Doctoral dissertation, West Virginia University, 1979). Dissertation Abstracts International, 1979, 39/07-A, 4112. (University Microfilms No. 79-00895) (b)